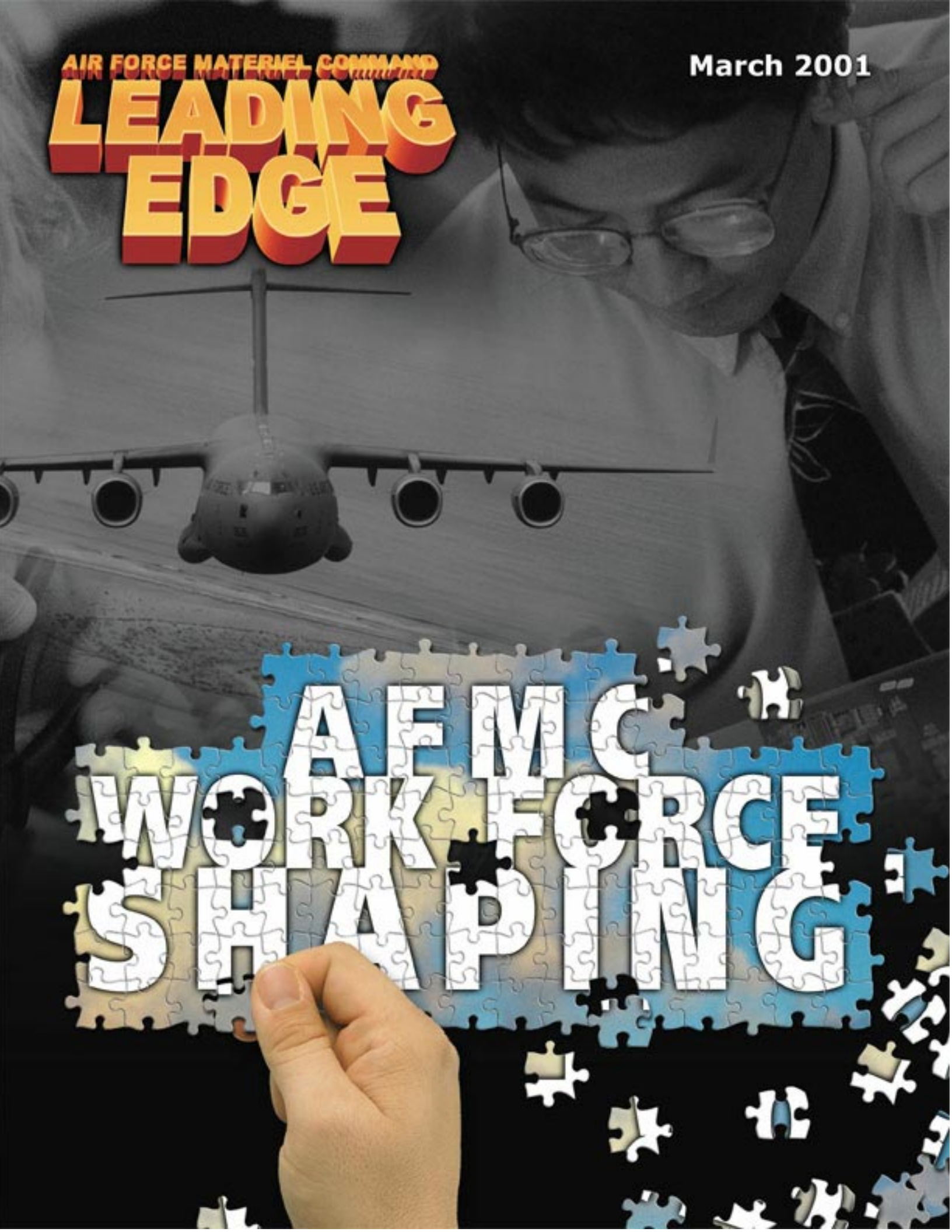
AIR FORCE MATERIEL COMMAND

LEADING EDGE

March 2001



AFMC WORKFORCE SHAPING

LEADING EDGE

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AFMC
AIR FORCE MATERIEL COMMAND

Cover Stories

Graphic design by Tech. Sgt. Bill King, HQ AFMC Command Center.

4 - 15 Work force shaping...

Following years of downsizing, reinventing and A-76 studies, AFMC now faces a work force rapidly approaching retirement eligibility. The 21st century greets us with a new challenge — finding the best and brightest workers to meet our future mission needs. Turn the page to learn how AFMC is dealing with this critical issue and setting the example for the rest of the Air Force.

Mission Progress

Features

Departments

Tech. Sgt. Bill King has designed more than two dozen Leading Edge covers since coming to AFMC in 1997. Read on page 26 how he uses humor and innocence to create his art.

TEST AND EVALUATION

JDAM test measures weapon accuracy

EDWARDS AIR FORCE BASE, Calif. — An F-16 Fighting Falcon, piloted by Capt. Jim Less from the 416th Flight Test Squadron, drops a Joint Direct Attack Munition, or JDAM, equipped with the Direct Attack Munition Affordable Seeker, or DAMASK, during a recent test.

Released from several miles away, the weapon — set in a Global Positioning System-denied mode — punched a hole in a target nearly dead center, relying only on JDAM's inertial navigation system and DAMASK's template-matching capability.

The test measured what effect DAMASK has in tightening weapon accuracy during a GPS-jamming scenario.

— Reported by AFFTC Public Affairs

Wind tunnel test targets combat capabilities

ARNOLD AIR FORCE BASE, Tenn. — Wind tunnel tests conducted in the 16-foot transonic wind tunnel here will help increase the lethality of the Lockheed Martin F-16 Fighting Falcon.

The test used scale models of the F-16 and the AIM-9X air-to-air missile to provide data for eventual flight-test use at Eglin AFB, Fla.

The data taken from the test is required to support safe separation certification for carriage and release of the AIM-9X missile from the F-16.

— Reported by AEDC Public Affairs

F-22 nears production with next round of tests

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Air Force officials announced the F-22 Raptor successfully completed static tests required to enter production. The F-22 will replace the F-15 currently in the Air Force inventory.

This latest achievement satisfies the eighth of 11 criteria tests the Defense Acquisition Board will use to decide if the F-22 program can enter low-rate initial production for the first 10 aircraft.

Designed to test the forward fuselage inlet duct, the loads applied during this test were based on pressures the F-22 could experience during operational usage.

The full-scale ultimate static test program consists of 19 "air vehicle" level conditions and a set of "local" level conditions.

The air vehicle level tests were the first phase of the test program and were designed to test the strength of the aircraft's primary components with the forces and pressures it could experience in actual flight.

The second phase of the test program consists of the remaining local level tests and is designed to exercise the localized structure of the aircraft to ultimate load levels. This test phase will be completed in April.

Lockheed Martin Aeronautical Company's facilities in Marietta, Ga., the Boeing Company, Seattle, Wash., and Pratt & Whitney, Hartford, Conn., have joined the Air Force to develop and produce the F-22, which is slated to be operational in late 2005.

— Reported by ASC Public Affairs

X-32B moves closer to first flight with engine runs

EDWARDS AIR FORCE BASE, Calif. — Boeing moved its Joint Strike Fighter X-32B concept demonstrator closer to its first flight with the recent completion of a key phase for installed engine runs.

As part of the build-up to short take-off and vertical-landing flight, a test team conducted flow-switch transitions, redirecting engine thrust from the aircraft's cruise nozzle to the lift nozzles and back again.

The engine was tested at various power settings to verify system integrity.

To perform these maneuvers, the system redirects engine thrust downward through lift nozzles in the airframe.

For conventional flight the lift nozzles are closed and thrust flows rearward to propel the aircraft forward and to supersonic speeds.

In more than 500 trials, transition times from conventional to vertical thrust and back again have consistently been accomplished in one to three seconds.

This rapid and direct transition capability is important for unrestricted short take-off and vertical-landing flight operations and aircraft safety.

— Reported by AFFTC Public Affairs

PRODUCT SUPPORT

AWACS reaches major program milestone

HANSCOM AIR FORCE BASE, Mass. — The E-3 Airborne Warning and Control System Program Office here recently met a key Radar System Improvement Program milestone.

Meeting the required assets available milestone paves the way for an entire Airborne Warning and Control System, or AWACS, fleet upgrade.

Brig. Gen. Jeffrey Riemer, program executive officer for command and control programs at Air Force headquarters, declared radar assets available when Air Force Materiel Command provided the required aircraft, technical orders, training and spare parts to begin a trial period to determine if the improved AWACS aircraft is ready for combat.

The milestone sets the stage to upgrade the entire E-3 AWACS fleet. The program upgrades the AWACS' radar capability. It replaces equipment that has been in the aircraft for more than 20 years with modern radar technology.

The upgraded aircraft has improved electronic counter measures, meaning it will be much more difficult for enemy forces to deceive or "jam" the AWACS with false electronic signals. It is also user-friendly, improving operational management of a very complex system, according to Gen. Riemer.

— Reported by ESC Public Affairs

AFMC makes the pieces fit

— Gen. Les Lyles
Commander, Air Force Material Command

SSgt. Angela Stafford, SAF/PAI

The civilian work force has been an integral part of the total force of Air Force Materiel Command and its predecessor commands for more than 50 years. As researchers, systems and infrastructure maintainers, program managers, test and development experts and sound business managers — you have helped secure our country's constitution and freedoms.

Decreasing the work force

When Air Force Logistics and Air Force Systems Commands merged in 1992, the combined civilian work force totaled more than 93,000. At the end of fiscal 2000, we had only 58,250 civilian authorizations. Of the nearly 35,000 reductions, 2,200 — approximately six percent, resulted in involuntary reduction-in-force, or RIF, separations. The reductions were accomplished, in part, through limiting the number of new hires and offering incentives to employees to separate.

The end results are two-fold: First, we are left with a force rapidly approaching retirement eligibility; and second, the past decade of downsizing, reinventing and A-76 studies created uncertainty and instability, and there was no end-state on civilian force numbers. This new decade greets us with assurances that we've grasped what civilian end-strength needs to be and that the new challenge will be to re-shape the work force to meet AFMC's future business needs. This challenge cannot be met without your help.

AFMC employs more than 40 percent of the Air Force's civilian work force, and you make a significant impact on Air Force operational capability. Fifty percent of our force is eligible to retire over the next five years. If we can't fill these positions with the right mix of talent, like civil service scientists and engineers at our centers, skilled craftsmen in the depots, and other professionals, we could be heading toward a train wreck.

To preclude that wreck, we have been grappling with the challenge of replenishing and reshaping the work force. We must put in place the right balance of military, civilian and contracted work force with the right combination of job knowledge and mix of skills.

Sustaining the sword

Throughout last year, AFMC centers and the headquarters staff carefully analyzed center-level manning requirements from 2000 through 2007. A study published last spring — entitled "Sustaining the Sword" — is posted on the AFMC Directorate of Personnel web page (www.afmc-mil.wpafb.af.mil/HQ-AFMC/DP/2005/final/index.htm). The study carefully analyzed what skills and levels of job experience were needed to handle our command's commitments to the Air Force.

The study showed the projected general categories of positions to fill this decade would include more than 8,500 wage-grade workers; 6,000 administrative people; 5,700 in the professions; and 3,100 in the technology areas.

The Air Force, AFMC and our local communities need the help of the current work force to dispel cynicism, skepticism and sheer ignorance about civil service in order to meet the challenge of encouraging nearly 26,000 people to come work for this command. Civilian end-strength has stabilized, and people can be confident in pursuing a career in civil service. Both military and civilians are ambassadors and recruiters in our communities who can spread the word about the benefits of and opportunities in government service.

Rebuilding and reshaping

Over the last decade of peace and prosperity there has been a change in our society. Young people look to the corporate world for advancement and opportunity. A flourishing economy and a decade of eliminating government workers has discouraged young people from considering civil service.

Government is competing with the private sector for premium engineering, science and computer talent. Our depots are competing with civilian aviation and their expansion to fill aircraft maintenance jobs. In fact, there is a national shortage of skilled mechanics, metal workers and machinists in virtually every industrial enterprise.

There is great opportunity for career progression in the civilian force. Career civil servants have a chance to realize their full potential as the way is opened to develop, grow and lead. Military members retiring or separating will have a chance to fill some of the skilled journeymen and managerial-level positions.

Former-military people know the culture, know the processes and can provide the continuity this command will desperately need.

This is going to take short term and long term recruitment strategies. It will take a team effort of not just personnel people, but functional experts who will work to recruit bright people from our nation's universities and technical schools, for full-time employment or through student programs such as cooperative education. In fact, we are "reaching way back into the future" by working with educators from elementary schools and high schools. AFMC people volunteer as mentors, visiting scientists, Junior Achievement program facilitators, guest instructors; judge science fairs; or serve as hosts for shadow programs — they are building bridges for recruiting and the foundations for future AFMC capability.

Teamwork is the key

There are also great programs out there where our scientists and engineers go to campuses to talk about the important work being done in Air Force laboratories, test centers, depots, and program offices. Again, teamwork is key here. Public affairs specialists can work with their counterparts in the schools, colleges and communities to raise public awareness about your efforts to inspire and recruit. Personnel specialists can assist in walking people through the hiring process—so include them on key visits where people would be eager to "sign-up!"

The headquarters staff and I are also committed to working this issue as a team. To that end, in late August AFMC opened the Human Resource Program Office (AFMC/DPH). We have also asked for legislative and regulatory relief for many of the barriers we face as we reshape ourselves. AFMC is revitalizing its civilian education and training programs to prepare high-potential employees for increased responsibility and shared leadership with the military.

As you can see, a lot of initiatives are already underway. But we still need your help. Let's make this a partnership for AFMC's future. Military and government service is about a higher calling, delivering capability to America's Air Force. Encourage bright people you meet to consider this calling — a rewarding future awaits them.

Making progress: Legislative and regulatory pieces

- We obtained delegated examining unit approvals for Edwards, Eglin, Hill, Robins, Tinker, and Wright-Patterson AFB to allow them to hire locally from outside sources, rather than through Office of Personnel Management, or a centralized Air Force office, on most actions.
- The Office of Personnel Management approved our request to expand the use of recruitment, retention and relocation bonuses to blue-collar employees. OPM published the proposed rules in the Federal Register on January 19, 2001, and after a period of comment and time to publish the new regulations, the program should be finalized by this summer.
- We have been granted the authority for the Human Resource Program Office (HQ AFMC/DPC) to approve exceptions to restrictions on hiring retired military within the prescribed 180-day waiting period for higher grade positions. Previously that authority rested with Air Force headquarters. This will substantially reduce the processing time for such requests.
- We are processing several requests for special salary rate increases for engineers at specific AFMC installations.
- We have pressed the need for flexible hiring authorities to enable us to hire high quality people quickly, and waivers for annuity offsets for civilians to allow certain key employees to return to work on a part-time basis after retirement with no offset of their salaries.
- We are encouraged by legislation that has given us an expanded retirement incentive program. A corollary to the current VSIP incentive program, it allows us to offer monetary incentives to targeted areas of the work force, where we need head room to hire trainees for out-year expertise. Under this authority, which was authorized for fiscal 2001-2003, we can offer cash incentives without tying the same to a reduction-in-force.
- Other initiatives we are currently working:
  - Partnering with USAF to develop a web-based entrance and exit survey to allow us to gauge where problems exist, so we can address them
  - Developing software tools that managers can use to project future work force requirements and assess progress in meeting those requirements
  - Developing an AFMC public web page for recruiting purposes
  - Developing standard training plans for populous/critical occupations

AFMC offers opportunities, benefits

- Many AFMC installations — Tinker AFB, Oklahoma; Robins AFB, Georgia; Hill AFB, Utah; and Wright-Patterson AFB, Ohio, are their states' largest employers. This means a variety of jobs, opportunity for career progression and a range of responsibilities very few businesses can match.
- Scientists and engineers emerging from our colleges and universities should consider internship and developmental positions in our laboratories, depots and program offices. Each provides unique opportunities to solve problems, manage responsible programs and build leadership skills.
- We're hiring mid-career expertise and college-level trainees, especially those with backgrounds in engineering, computers and the management areas of finance, contracting and business.
- Advancement up the civil service ladder exists if you take advantage of the opportunities offered to you to broaden your experience and skills. If you decide to leave, you will have an impressive resume demonstrating competency and responsibility.
- As a civilian in AFMC, your place of employment becomes a way of life offering recreational facilities, childcare centers, club membership for dining and entertainment and other conveniences.
- As a civilian in AFMC your benefits include competitive health insurance options, an occupational health facility with strictest compliance to worker health and safety, as well as an employer with an active concern about equal-opportunity employment and labor practices.

New initiatives shape the future work force

Air Force Materiel Command has been heavily engaged in downsizing the work force to meet mandated reductions during the past several years.

The command focus has been on ensuring that current surplus civilian employees would be placed in continuing vacancies or offered incentives to retire or separate early.

"AFMC did a great job in mitigating the hurt associated with the downsizing," said Ms. Polly Sweet, director of the command's work force shaping project. "However," she said, "there were few opportunities to recruit new employees or adequately assess force needs for the post-downsizing era."

Changes in demographics

Because of the downsizing, the command's work force is changing in both demographics and skill requirements.

With the projected exodus of more than 26,000 employees over the next five years, the command is taking an active approach to managing the work force to avoid losing valuable institutional memory, creating skill imbalances and serious work backlogs, according to Ms. Sweet.

Times are changing

"Times change, and now the service's leading employer of civilians is mapping plans to find, hire and keep the best and brightest young workers," she said.

"AFMC now leads the charge in recruiting and hiring civilian employees. We have 60,000 workers scattered over 10 states and such a large number of those are nearing retirement age that the command is exploring several initiatives to reach out to employee prospects," Ms. Sweet said.

A program office, entrance and exit surveys, a handbook for supervisors and a web-based reporting program that tracks work force management are among the initiatives already introduced to address this critical issue.

New program office

Last summer, AFMC opened a work force shaping program office in its headquarters at Wright-Patterson Air Force Base, Ohio.

It also issued its first comprehensive report, "Sustaining the Sword," which placed the requirement for employees in the context of the command's future business needs. The report laid a baseline for determining employee requirements in the near term, according to command personnel officials.

The new program office, under Ms. Sweet's direction, launched a comprehensive effort to find and advocate funding for force-shaping investments.

The investments include recruiting and relocation bonuses, first duty station moving costs, more jobs for interns and a significant increase in training for developing employees.

The office is backing several legislative initiatives to press for policy changes and reforms designed to cut red tape and streamline recruiting processes.

Staff at the Air Force Materiel Command Work Force Shaping Resources Division include, from left to right: Ms. Polly Sweet, director, and personnel management specialists Ms. Serina Albright, Mr. Ken Compton and Ms. Donna Williams.

Entrance and exit surveys

One set of tools that promises to provide valuable data in recruiting and retaining talented employees are entrance and exit interview surveys. These surveys will capture both the health of the organization and shortcomings in its recruiting effectiveness, said Ms. Sweet.

"The surveys, which began in January, will help gauge the strengths and weaknesses of both our recruiting and work place environment and we will use the information to make changes where warranted," said Ms. Sweet.

After at least four months on the job, new employees are asked to take the survey. Additionally, when AFMC employees leave a job for any reason, they are given another survey.

The surveys are web-based and workers may remain anonymous. As data is collected it will be analyzed and shared with supervisors in order to resolve problems with filling jobs, according to Ms. Sweet.

Supervisory guide handbook

Another tool in designing and building a credible staff will be the "Supervisory Guide to Work Force Planning."

The guide provides a convenient starting place for supervisors and managers to research the options currently available under Title 5, the directive that governs civil service. It offers information to help managers develop recruitment and retention strategies and better manage the existing work force. The handbook provides a narrative description of the com-

mon methods for filling civilian positions, existing personnel flexibilities and authorities, and ways to currently increase pay. It also contains a section on demonstration projects.

Analysis tool

"We are developing a tool that will help us strategically manage and cultivate our work force. It is a web-based program called Business Objects that will allow us to integrate manpower, personnel and training information into a single source," Ms. Sweet said.

That single source of data will give the command the capability to report or track any number of human resource objectives that relate to work force development.

Business Objects has been selected by the Air Force Personnel Center at Randolph AFB, Texas, as the reporting and query tool that will be used with the modern defense civilian personnel data system.

The Air Force will transition to this new system in August of 2001. Each of the command's product, logistics and test centers will use business objects, via the Internet, to analyze and report commonly requested metrics, personnel, manpower and training information.

In the near future, these standard reports can be easily run with the click of button. In addition, ad-hoc query capability is being developed to meet an organization's special reporting and force shaping needs.

Keeping pace with changes

With the ever-changing work force and increased competition for critical skills in the public and private sector, AFMC recognizes the critical need for strategic work force planning.

Business Object will give human resource managers and strategic planners the ability to integrate personnel, manpower and training data, ensuring AFMC will have a well-shaped and well-managed work force in the years to come.

The work force shaping program office has many other active projects, according to Ms. Sweet.

For people with access to a military web site, there is a comprehensive web site, which includes the handbook at https://www.afmc-mil.wpafb.af.mil/HQ-AFMC/DP/2005.

— Ms. Donna Williams and Mr. Ken Compton, AFMC Work Force Shaping Program Office

Wright-Patterson AFB

ASC initiatives strive to retain quality work force

Officials at Aeronautical Systems Center at Wright-Patterson Air Force Base, Ohio, have developed retention initiatives aimed at shaping and keeping a quality work force.

According to Mr. Steven Shultz, Human Resources specialist, "An important part of ASC's success during the years has been our ability to bring new talent into the center to work with our more experienced employees.

"This allows senior employees to pass wisdom and corporate knowledge to junior employees — knowledge acquired from years of executing acquisition programs, which cannot be gained any other way," he said.

"At the same time, our junior employees bring fresh perspectives and ideas," he said. "To remain 'the future of aerospace,' we have to be able to train and retain these employees.

"In today's competitive economy the center must work to keep those employees, by enhancing their careers and encouraging them to stay with the Air Force," said Mr. Shultz.

The center's human resources directorate conducted studies of junior officer, enlisted and civilian workforces, to find out what initiatives would encourage them to stay. Foremost among initiatives requested was easy, rapid and continuing access to information about the center and career and training opportunities. In response, ASC has created:

Quarterly Junior Work Force Informational Seminars. These seminars keep the junior work force informed about such things as career programs, long-term full-time training and education opportunities. They also serve as a forum where members can network with one another and provide feedback to senior leaders.

Direct E-mail Distribution. In the past year, more than 200 junior civilians have signed up for this service, which provides legislative news, notices of upcoming informational seminars and other items of interest regarding the junior work force. Recipients also use this service to refer questions to Human Resources on issues such as insurance benefits and training.

The Junior Work Force Web Site. This web site supports junior civilians, officers and enlisted members. The web site contains notices of upcoming informational seminars, briefing charts from previous seminars, facts and figures, frequently asked questions, legislative news, web links and the junior civilian retention report. It can be reached at www.asc.wpafb.af.mil/asc/hr/retention/index.htm.

Mr. Shultz said ASC also has discovered, as has private industry, that employees leave their supervisor, not their company.

"In an effort to better arm supervisors in the retention battle we've created a 'Supervisor's Corner' web site. This site is a collection of information aimed at making the supervisor's job easier." This site can be reached at www.asc.wpafb.af.mil/asc/hr/supervis.htm.

Several briefings — designed to educate managers about differences in generations and changes that have occurred in the work environment — are also available.

Mr. Shultz said ASC officials hope these initiatives will help take work force shaping to the next level, where such retention initiatives complement recruiting initiatives to provide the center with an optimum level of trained, experienced personnel.

"ASC's greatest strength lies in its people," he said. "A skilled and balanced work force has always been the secret of our success. Maintaining that work force will guarantee our success well into the future."

— Ms. Joanne Rumple, ASC Public Affairs

SMC gears up to stablize work force

Stabilizing the future work force is a number one priority for Los Angeles Air Force Base, Calif.

"The Space and Missile Systems Center is facing a civilian work force challenge in the form of an aging population, potential retirements and a loss of corporate expertise over the next five to seven years," said Ms. Sandra Semrod, chief of SMC Human Resources.

"In turn, that leads to the challenge of how to replace a significant portion of the civilian force with quality talent in an extremely competitive labor market," she continued.

Work force shaping

An Air Force Materiel Command work force shaping communications plan has been developed to deal with work force challenges affecting the entire Air Force.

For a decade in AFMC "business as usual" meant downsizing, an extended series of manpower reductions and virtually no significant hiring.

The balance of retirements and new hires and accompanying career development opportunities declined, according to the plan.

Critical manning issues

Ms. Semrod and Ms. Lori Karin, project manager from the Office of Personnel Management, and the civilian personnel office began working critical manning issues in September.

"Recruitment and retention of a high quality work force to accomplish the mission and objectives of SMC is the project's goal," said Ms. Semrod. "An aging work force and massive retirements are only part of our challenge.

Filling vacant positions

"A shortage of applicants to fill vacant positions, applicants who are hesitant in relocating to Los Angeles, as well as a tight labor market and salary inflation in this area further complicate the situation," she continued.

"Bottom line is we're looking at a declining work force," she said.

"The areas with the most vacancies right now are in contracting, security forces and financial management with over 70 combined openings," she said. "Our goal is to fill most of these 'critical fill' positions in the near term."

"Recruitment and retention of a high quality work force to accomplish the mission and objectives of SMC is the goal for stablizing the work force," said Ms. Sandra Semrod, chief of Human Resources at the Space and Missile Systems Center, Los Angeles Air Force Base, Calif.

Ms. Semrod describes a challenge that goes beyond recruitment and retention. "We need to prepare for the next generation of employees," she said. "There are issues in addition to competitive salaries we are looking at as part of this initiative.

"We want to attract people to our center — we not only want to offer competitive salaries but also quality-of-life issues such as alternative work schedules, telecommuting and flex time," she said.

Challenges affect everyone

The two critical issues, according to Ms. Karin, is the need to fill positions and provide quality of life.

"These challenges affect everyone. In the form of long-term career growth, strategies to improve the work environment and quick recruitment for vacancies," she said.

To offset this situation, "we're focusing on a lot of things at the same time — functional areas as well as the environment," she said.

Organizational assessment

"To build upon the SMC work force data we compiled last year, we will very shortly be distributing an organizational assessment survey to all of our civilian and military employees," she said.

"The survey will be anonymous and will be used to diagnose work environment and management effectiveness in terms which relate to recruitment and retention," said Ms. Semrod.

"Based on this survey, we will implement initiatives geared towards retention of current employees and enhancing our ability to attract a new generation of employees," she continued. "Senior management is very supportive of our initiatives and feels this is the road to the future for mission accomplishment.

Bridging the gap

"To remain strong, we must pursue work force shaping initiatives that allow us to hire and maintain a quality work force for the years ahead," she said. "We hope 100 percent of our work force will respond to this survey to make it as reflective as possible of how people feel about working at SMC.

"I'm sincerely hoping the results of our efforts will bridge the gap we anticipate in the civilian work force in the next five years," said Ms. Semrod.

— Ms.Peggy Hodge, SMC Public Affairs

Acquiring a critical resource

Intern program offers benefits to science and engineering students

In a time when engineers and scientists are at a premium nationwide, Edwards Air Force Base, Calif., is benefiting from a program designed to stimulate recruitment of this critical resource.

"Palace Acquire, or PAQ, is specifically designed to attract college graduates in today's highly competitive labor market," said Mr. Jim Hopewell, Air Force Flight Test Center civilian personnel office equal employer staff specialist.

A big attraction for the program is students getting help paying for graduate school by receiving a salary while they study. Under the program, most science and engineering graduates begin work as interns at the GS-7 level and receive one year of on-the-job training.

The interns are then promoted to GS-9 and attend one year of full-time graduate school with their salary and tuition paid in full. In the third year they return for another year of on-the-job training as GS-11s, then complete their upward mobility by becoming a permanent employee and GS-12.

While engineering and science students seem the likely prospects, there are numerous other career fields that may benefit from Palace Acquire. Communications, civil engineering, logistics, management services, health, physics, intelligence and security are some of the other fields included in Palace Acquire.

Mr. Dan Avis, a mechanical engineer with the F-22 Combined Test Force at Edwards Air Force Base, Calif., is an intern with the Palace Acquire Program, which is designed to boost civilian work force applicants.

There are some strings attached to the completion of the three-year program. "There is a continuing three-year obligation in exchange for one year of grad school," Mr. Hopewell said.

And, if a person leaves government employment before the end of the employment commitment, he or she must repay the tuition and books on a prorated basis.

Presently, there are about 10 PAQ interns working at Edwards.

Mr. Dan Avis, a mechanical engineer working with the F-22 program is now in the third year of his internship with PAQ. He started working here in his specialty of reliability engineering in February 1998.

"I worked at Edwards for about a year-and-a-half before going for my masters degree at the University of Arizona," Mr. Avis said. "I've almost completed my third year of the program. This was a great opportunity to complete my education and not worry about making a living at the same time. I probably wouldn't have gone back for my masters if I hadn't found out about the Palace Acquire program."

For more information, visit www.afpc.randolph.af.mil or call the Edwards Civilian Personnel Office at (661) 277-8895 or DSN 527-8895

— Mr. Alan Heaberlin, AFFTC Public Affairs

Hill AFB actively seeks future employees with the "right stuff"

As the senior individual mobilization augmentee advisor for the Technology and Industrial Support Directorate, Hill AFB, Utah, Col. David Widauf knows too well the critical shortage of engineers and skilled technicians.

As Utah State University College of Engineering associate professor, Col. Widauf is planting seeds to recruit the right people for the right jobs by exposing faculty members and students to work at Hill. Focusing on tours for faculty members and students, career fairs and class speakers, Col. Widauf hopes to get the word out.

"There's a huge need for engineers in the Air Force," he said. "We want to open some eyes to the opportunities for civilians out here."

With Hill focusing on recruiting engineers and skilled technicians for the more than 45 vacancies, USU College of Engineering faculty members, dean and assistant dean toured Hill's aircraft depot maintenance repair line, landing gear repair, composites repair and the software development facilities.

"They were surprised at the level of technical need, type of work, quality of work and the salary ranges with bonuses," Col. Widauf said.

He hopes to continue promoting the base's vacancies.

Through these avenues Col. Widauf hopes to educate students about job opportunities, career advancement, promotions, training and benefits. Incentives being offered include salary bonuses and the Palace Acquire Intern Program.

"This is the place to be for anyone that likes a challenge," Col. Widauf said.

— Ms. Sue Berk, OO-ALC Public Affairs

Tinker partners with educators to avert worker shortages

Tinker Air Force Base, Okla., is enlisting the help of state educators to prevent a potentially serious work force problem in the future. Tinker installation commander, Maj. Gen. Charles L. Johnson II held an Education and Training Partnership Day at the base in October where he spoke with representatives from more than 30 colleges, universities and technology centers about the problem and possible solutions.

"Air Force studies have shown that we will have significant losses in the next few years — up to 46 percent of our employee base," said Ms. Sheila Jones, director of Oklahoma City Air Logistics Center Plans and Programs. The losses will be due to retirements among the Air Force's current employees — most of whom were hired in the Vietnam era and who will be eligible to retire within the next five years.

"Going out the door are hundreds and hundreds of years of experience," said Gen. Johnson. "I am convinced we need to prepare for the next decade. I'm not so sure we are prepared."

Hunt for specialized skills

Tinker leaders will be looking for skilled and educated professionals to step into those vacant jobs and believe an alliance with the academic community is the best way to make that happen. "The problem is so large that what we need to do, somehow, is figure out how to slice this up into pieces that are manageable and then, working in a partnership, work on the details," said Mr. Robert J. Conner, OC-ALC executive director. "I don't think any one institution could ever be able to handle it."

Joint venture with shared benefits

Gen. Johnson shared his vision of expanding the base by creating a Maintenance/Repair/Overhaul Mall in a joint venture with private companies and local government to meet workload requirements. "If we're going to be effective and efficient, we've got to modernize our facilities," Gen. Johnson said. "It's getting harder for us to compete. If we can do it all here in a centralized location, we will be one powerful and productive center."

Running the MRO Mall will require the base to hire even more employees.

Gen. Johnson said it is crucial that the employees have a formal education. "We need to raise our standards," he said. "I'm not afraid to say it. I'm not afraid to demand it. I believe what we do over the next three to four years will shape this center for the next 40 to 50 years."

Incentives to come

Ms. Jones listed some of the incentives the base may use to attract employees such as signing bonuses, salary increases for critical skills like engineering, relocation and retention bonuses and continuing education opportunities.

In a roundtable discussion, the education representatives and base leadership discussed ways to attack the problem together. The group decided to create an executive committee and volunteer subcommittees that could possibly put together a video and a catalog of needed skills as reference tools for students.

Mr. Syd Hudson, vice chancellor of the Oklahoma State Regents for Higher Education, assured the base of the board's support. "Our board sees this as a top priority," he said. "We can get this job done."

Sharing ideas for success

Many other educators felt the same way and are already planning to help any way they can. "We've got some programs that I think will fit into some of those fields so we can work to attract those students and also develop contacts so we can help our students get jobs here," said Dr. Sean Fox, Seminole State College vice president.

"I think it is extremely beneficial in the sense that those here at Tinker are including us in their vision," said Dr. Martha Dauway, vice president for academic affairs at Langston University, Oklahoma City campus. "It helps that education itself is encouraged here."

Education representatives will continue to meet with base leaders periodically as some of their ideas are put to the test. The recruiting effort can then be tailored to better meet the needs of both the students and the base.

—Ms.Amy Schiess OC-ALC, Public Affairs

Civilians at war

Civilians contribute skills to past and more recent war efforts

Throughout the Air Force, civilian employees have given their devotion, energy and even their lives to accomplish the mission.

Evidence of great contributions can be found as far back as the Vietnam War, where such demands were placed on existing supply lines, that it became necessary to send civilians into the area of operations. Not even during World War II had civilians been sent to a combat zone.

According to Mr. H.P. Carlin's *Logisticians in War: The Experiences of Special Teams in the Vietnam Era*, by the spring of 1965 the Air Force Logistics Command created the Rapid Area Supply Support, or RASS, teams.

These teams were comprised of both military and civilian personnel. RASS teams were prepared to deploy overseas within 18 hours after receiving notification.

The initial plan

The original idea was to send military personnel to combat areas while keeping civilians in the continental United States locations. As the war progressed and manning became thin, civilians were sent to combat zones based on the needs of the Pacific Air Forces.

Another civilian contribution to the Vietnam War was the establishment of support teams known as Rapid Area Maintenance, or RAM.

These teams were entirely devoted to repairing battle-damaged aircraft and were deployed to areas where depot-level maintenance was needed, placing many of them in a higher element of danger.

Repairing damaged aircraft

RASS teams were mostly confined to working on base, although many times they were called upon to repair damaged aircraft in the field where they were subject to ambush, according to Mr. Carlin.

Ironically, a RAM team received casualties in a public place, rather than in the field, when a terrorist bomb killed four members.

Even though the nature of RAM team work was dangerous, they repaired more than 1,000 aircraft and salvaged many more, which brought an acquisition price of more than $1.7 billion, according to Mr. Carlin.

Recent contributions

More recently the civilian work force was heavily involved in Desert Shield and Desert Storm with more than 200 Air Force civilian employees serving in Southwest Asia, according to the Gulf War Air Power Survey.

Tactical Air Command provided the largest number of civilians to deploy to provide aircraft technical advice and support.

Civilians provided the same support as in previous campaigns, but they also provided support for logistical, civil engineering, intelligence, procurement, personnel systems and mortuary affairs. The important role civilian workers have played in the war-fighting effort has continued to grow and diversify.

Civilian war force

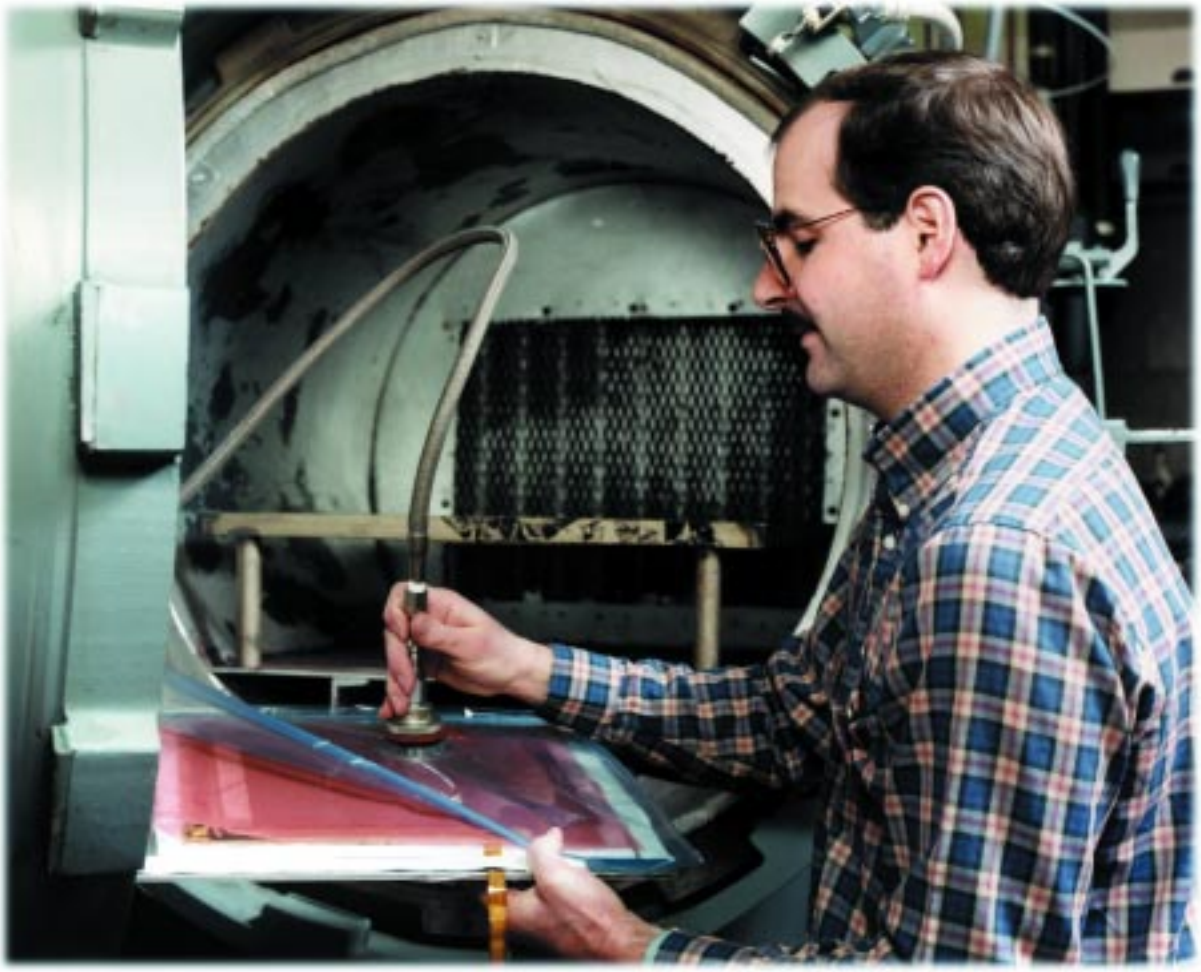
In recent years this devoted and valued source of manpower has dwindled due to cutbacks and is searching for new ways to replenish itself. "The civilian work force has been shrinking over the past ten years, and we haven't been bringing fresh people into the pipeline," said Ms. Polly Sweet, Air Force Material Command's chief of human resources division.

"Fifty percent of the civilian work force could be leaving by the year 2005, with no one to replace them," she said. As the civilian work force has become a larger player in the "war-fighting machine," efforts to better train and provide opportunities to excel has become a priority.

Top: An AFLC electrical crew checks the wiring of an F-5 aircraft at Bien Hoa Air Base in South Vietnam. Above: maintenance personnel reassemble an F-5 aircraft.

"We are trying to find what makes our folks happier with their jobs and train them to better develop their skills," Ms. Sweet said. "The civilian workforce is a valued part of the Air Force team, and we are going to see that all efforts are made to strengthen and nurture it."

— Capt. Bradley Jessmer, AFMC Public Affairs



Mr. Brian Rice, an onsite contractor with the University of Dayton Research Institute conducts research at AFRL's Material and Manufacturing Directorate. Mr. Rice participated in Dayton Public Schools Math and Science Internship program. His experience with the program led him to pursue a degree in Chemical Engineering from Ohio State University and his current position as principal investigator of the structural material's branch of the aerospace composite materials contract.

AFRL efforts strengthen recruiting

People programs essential for supporting agile work force

Mr. Brian Rice, a shy and unassuming high school student, first stepped into the Air Force Research Laboratory's Materials and Manufacturing Directorate in 1981 as part of the Dayton Public Schools' Math and Science Internship program.

Co-sponsored by the directorate's polymer branch, during that semester-long introduction to composite materials and the directorate, he worked toward a solution to a phase separation problem in molecular composites. At the program's end, as he stood in front of his directorate mentors, high school teachers and peers, he gave a masterful display of his work.

"This kind of success story highlights the importance of our involvement in these people programs," said Dr. Wade Adams, chief scientist of the materials and manufacturing directorate and who, as a research scientist, mentored Mr. Rice.

"Many of the scientists and engineers in our work force have similar stories about how they became associated with the directorate," he said. "In Mr. Rice's case, if it weren't for our program with the Dayton Public Schools we would have never found him."

Mr. Rice took his love of science with him to Ohio State University where he earned a bachelor's degree in chemical engineering.

With the "research bug" in his blood and fond memories of the directorate, he returned as a University of Dayton Research Institute onsite contractor.

Getting valuable experience

"When I worked at the directorate during high school, I learned a lot about polymers and chemical engineering, which were both areas that interested me," he said.

"Experiencing the research culture within the lab really helped me decide to pursue my area of study at Ohio State."

According to Dr. Adams, programs like the one that acquainted Mr. Rice with the directorate have helped maintain the leading edge in materials and manufacturing research.

"We maintain the quality of our work and work force by having people programs that work for us and by performing research exciting enough that people want to work here, plain and simple," he said.

A major portion of the directorate's materials and manufacturing research is revolutionary, which is exciting work for its research teams, and helps to attract high-quality people.

Examples of these areas are in biomaterials, drawing inspiration and insight from nature in the invention of new materials concepts; nanomaterials, where the lab explores properties and processes at the molecular and atomic level to create new hybrid composite materials.

Another is combinatorial materials sci-

ence, where imagining parallel experiments, matrixed data collection, data mining and visualization create new possibilities in materials science and engineering.

Participation in the directorate's programs was what brought Dr. Morley Stone to his current civil service position as group leader in one of these revolutionary technology areas — biotechnology.

Dr. Stone came to the directorate as an on-site contractor in 1989 and has since participated in research as part of the Southwest Ohio Council for Higher Education and Palace Knight Programs that help scientists and engineers obtain advanced academic degrees.

His early involvement with the laboratory as a student exposed him to the research environment and encouraged him to continue education in science areas. It also introduced him to programs that helped finance his education.

Researchers on the team

Dr. Stone said other researchers on his team came to the lab as part of these programs, including a University of Cincinnati student, who currently participates in the Dayton Area Graduate Studies Institute Program, and two undergraduate students from Wright State University and the University of Dayton, who are involved in the Student Temporary Employment Program.

Dr. Stone is very appreciative of the directorate's confidence in his abilities.

"Biotechnology is an exciting field that will provide materials engineers with a 'tool box' they can use to solve materials-related problems," he said. "It will make possible new materials that don't have a synthetic counterpart, create processes to apply biology to existing technology and make products more affordable. I'm excited to play a part in the research that will make that possible."

Lofty goals

One of the goal's of the directorate's biotechnology group is to encourage a possible Air Force Research Laboratory BioTech Center, where scientists from three other directorates and the Air Force Office of Scientific Research could do cross-directorate research.

Dr. Stone said this would not only create more opportunities for the directorate to bring in scientists and engineers, but the research would provide numerous opportunities for scientific advancement of biomaterials.

— Mr. Timothy Anderl, AFRL Public Affairs

AFRL programs help students and volunteers succeed

The Air Force Research Laboratorys "people programs" paid off in November when a former co-op student and now government scientist received a Fellows Award.

Dr. Daniel Miracle

Dr. Daniel Miracle, a scientist in the materials and manufacturing directorate's metals, ceramics and nondestructive evaluation division, came to AFRL as part of a co-op program in early 1978. He began full-time employment following his graduation from Wright State University in 1979.

His co-op work was his senior engineering project. It led to his first published paper and contributed to a national award from the Society for the Advancement of Materials and Process Engineering.

"The co-op program allowed me lab exposure," he said.

Dr. Miracle's recent research on metal matrix composites contributed to the first Air Force specification of a fiber-reinforced metal matrix composite and the first aerostructural component of particle-reinforced composites, saving the Air Force $26 million.

"Another program I feel contributes strongly to the training and retention of excellent scientists is the Window on Europe program," he said. "This provides a one-year 'sabbatical' at an outstanding laboratory of the researcher's choice in Europe — I spent the year at Cambridge University.

"It is essential that the directorate foster and support the international reputation of its scientists if it is to maintain an outstanding international reputation for science and technology," he said.

Another AFRL success story helps place former students in permanent positions.

Ms. Katie Thorp understands the role of flexible contracting in bringing scientists and engineers to the directorate. It resulted in her permanent employment and helped her on the way to her doctorate.

Ms. Thorp, a scientist in AFRLs nonmetallic materials division, first came to the directorate in 1991 as part of a University of Dayton Research Institute contract for research in the area of biotechnology. She later switched to carbon-carbon and polymer matrix work.

The on-site program helped with her tuition at the University of Dayton and gave her the flexibility to continue her education while working.

In 1998, Ms. Thorp was hired as a term government employee of the directorate and hired permanently within the year. She studies environmental effects on polymer matrix composites used in high-temperature applications, such as jet engines.

She helps facilitate an educational program to interest local high school students in science through the Scanning Electron Microscope Educators program.

Ms. Thorp often sees the payoff of volunteering for the directorate's programs. She cites a student who was introduced to the directorate through the electron microscope program. He returned as part of a Southwest Ohio Council for Higher Education program, which provides university students the opportunity to work part-time in the lab as part of a research project.

Dr. Katie Thorp

"By doing educational outreach we are helping education, youth and our future work force," she said.

— Mr. Timothy Andrel, AFRL Public Affairs

Robins Air Force Base

Base in "overdrive" to meet work force challenges

In a multi-pronged effort to develop a civilian manpower base to counter an Air Force wide inbalance of senior personnel eligible to retire in the next five years, Robins Air Force Base, Ga., has gone into overdrive.

Ms. Deborah Palmer, Robins work force shaping coordinator, said the base's aggressive approach is designed to shape a civilian force capable of meeting the challenges of the new century by attracting and retaining the brightest and best to meet missions that rely on 21st century skills and thinking.

A streamlined application process that includes a well publicized jobs web site, ambitious engineering recruitment program, incentives for information technology workers and a co-op program with area engineering and vocational-technical schools are beginning to bear fruit.

Quick, easy and effective

Even the job application process is undergoing change as Robins prepares to begin its new role as a U.S. Office of Personnel Management, or OPM, delegated examining unit.

The process began in January and simplifies the job application process. It is also projected to considerably speed up the process.

Its function will be to review, assess and certify job applications and forward them to the Robins employment office.

Processing applications

Ms. Mary Brooks, delegated examining unit equal opportunity and staffing specialist, and her 10-person team will process applications, meaning job-seekers will no longer be required to mail applications to the Atlanta area OPM office.

Applications will be sent to Robins or online at http://www.usajobs.opm.gov.

In addition to the job announcements, the website will provide employment information fact sheets, job applications, forms, a resume development tool and electronic transmission.

As before, the employment office will do the hiring from candidates the process has certified as qualified.

Another web-based asset is the RobinsJobs.Com web site. Since its inception in September 2000, the site has had more than 85,000 visitors.

Mr. Don Bradshaw, Robins employment office chief, said a combination of factors, chiefly mounting workloads and the reversal of the workforce draw down, have brought many new faces to Robins the past several years.

"We are striving toward two major objectives — improved timeliness and quality in our process," he said.

"I believe local staffing specialists with an intimate knowledge of the Robins mis-

Ms. Mary Brooks, an equal opportunity and staffing specialist at Robins Air Force Base, Ga., advises Ms. Tambra Singletary, a job applicant, of Robins new role as a U.S. Office of Personnel Management delegated examining unit. The unit, which went into operation in January, is expected to speed up the job application process.

Mr. Chris Barkley, engineer, troubleshoots a part problem with Ms. Emma Adkins, an aircraft sheet metal mechanic, at the hydro forms press area of Robins' technology and industrial support directorate. Mr. Barkley is among the 213 students enrolled in the Robins co-operative program.

sion can do a better job of determining the best-qualified candidates," Mr. Bradshaw said.

Recruiting

Ms. Marcia Pennone, program manager of Robins' engineering recruiting program, said the base's adoption of the maximum hiring bonus — 25 percent of basic pay — has been a successful recruiting tool.

"The bonus makes us more attractive, but we also have a nice community, good quality of life and our excellent thrift savings plan to offer," she said. "The base's standard 40-hour work week also attracts engineers," Ms. Pennone said.

Compensation

Base engineers receive overtime or compensatory time off for more than 40 hours worked in week. But in private industry, salaried employees usually are required to work until the job is done. The strain the additional hours produce is an additional quality of life issue.

Since the inception of the recruitment program, Robins has added more than 150 engineers to the work force, and Ms. Pennone is "optimistic that in the next nine months 100 more will be hired to meet the base goal."

The candidates, she said, are coming from colleges and universities, other bases and private industry. "I think we are getting exceptionally qualified engineers," Ms. Pennone said, "a good indicator that our major investment in recruiting effort is paying off."

Hiring bonuses

Ms. Pennone said previous announcements about the hiring bonus brought an onslaught of phone calls. Robins approved the recruitment or relocation bonuses in November 1999 for engineers filling vacancies.

The incentives apply to grade levels five through 12.

However, employees assigned to positions in the Robins operating location at Kelly AFB, Texas, and McClellan AFB, Calif., are not entitled to the incentives.

Former Robins employees rehired within 18 months of their departure are also not eligible for the bonus. While the bonuses do not affect engineers currently employed at Robins or those in another operating location, Ms. Pennone's office has requested an amendment to existing special salary rates that would put base engineers' salaries closer to those in the private sector.

A proposal to raise salaries 10 to 25 percent depending on grade levels has been submitted to Air Force Materiel Command.

Ms. Bobie Ensor, a co-op student at Robins Air Force Base, Ga., concentrates on an assembly for an antenna radar section in the avionics management directorate.

Co-op programs

Robins has another cooperative program with six area vocational-technical schools, a program re-established in 1998 after a 10-year hiatus.

Ms. Maureen Thompson, equal employment and staffing specialist, said 213 are enrolled in the program which offers base supervisors a ready pool of trained applicants for specialized jobs.

The two-year program offers six-month alternating school and on-the-job training opportunities for which students are paid.

The first group of 24 completed the full cycle in September 2000 and the second group of nine will complete the program soon.

Each of the co-op students placed on base has undergone interviews, physicals and suitability screening.

Diversification

"The co-op students are diversified, ranging from recent high school graduates to retired military and workers who have decided to change careers," Ms. Thompson said.

Three other programs have become key to the composition of the Robins' work force.

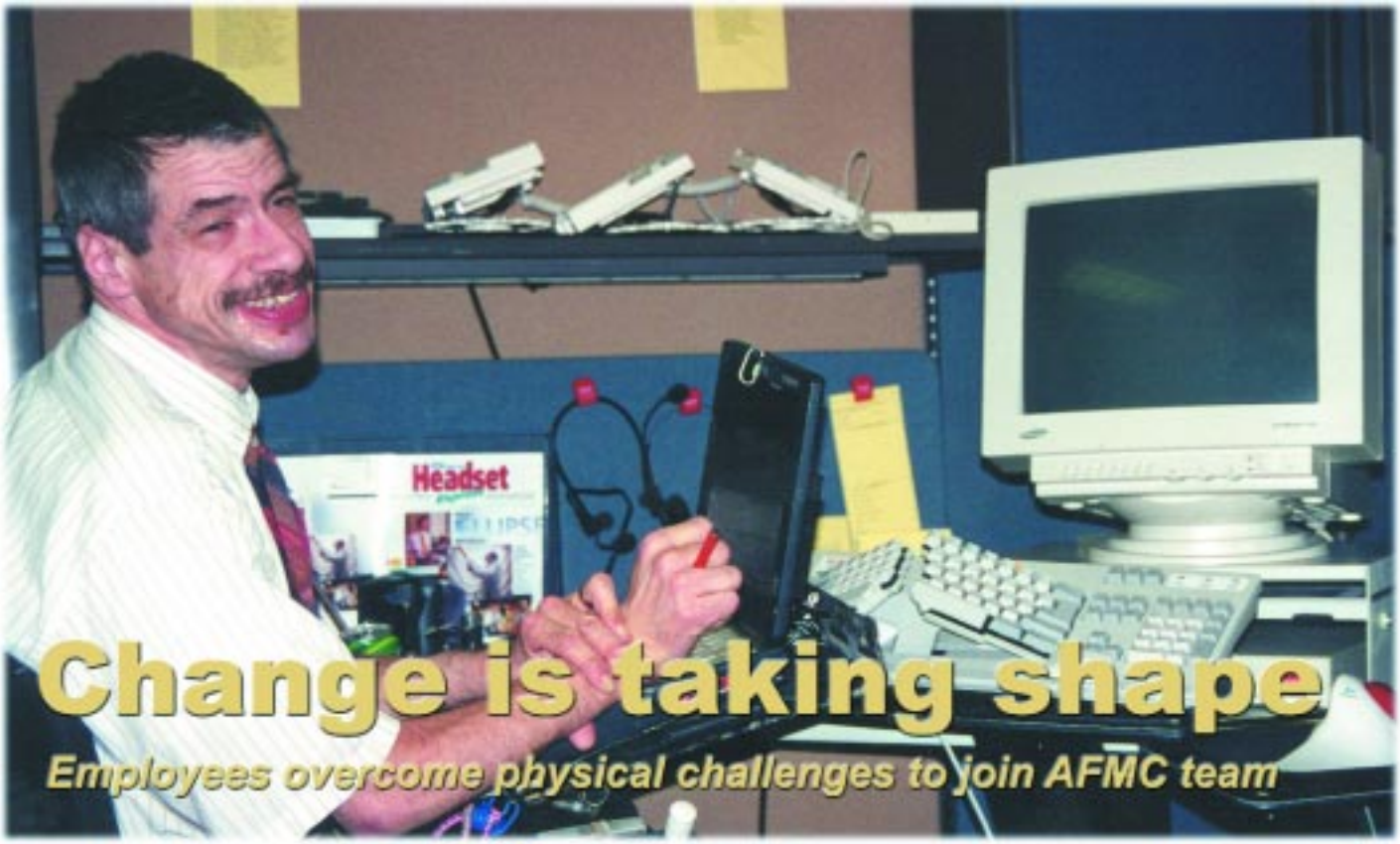
The first is an Outstanding Scholars and Administrative Careers with America Program. Last year the base hired more than 180 employees under this program.

Another incentive program is a special pay raise that began in January. It is expected to keep information technology workers on the job.

More than 200 such employees at Robins received the raises ranging from five to 28 percent.

Finally, computer engineers, computer scientists and computer specialists are paid under a special salary rate. They are among 33,000 federal information technology employees that are now earning increased pay throughout the Air Force, not just at Robins.

— Ms. Chris Zdrakas, WR-ALC Public Affairs



Change is taking shape

Employees overcome physical challenges to join AFMC team

Mr. Scott Clausen, severely disabled with cerebral palsy, is a civilian program manager working for the Air Force with a staff of seven. He was recently recognized by a four-star General with an Air Force level award for his accomplishments.

He moves with a motorized wheelchair and talks by using one hand to type words into a laptop, which are then amplified as an electronic voice. Despite his physical difficulties, he's proving every day that they can be managed.

Others like Mr. Clausen are increasingly becoming part of the Air Force team as the service strives to meet its goal of hiring 7,000 people with disabilities through fiscal year 2005.

Former President William Clinton signed an executive order in July 2000 establishing a goal for the federal government to hire 100,000 qualified individuals with disabilities over the next five years.

Work force shaping

The increased emphasis on hiring people with disabilities coincides with Air Force concerns that almost half the civilian work force will be eligible to retire by 2005. And since Air Force Materiel Command is the largest employer of civilians in the Air Force, work force shaping efforts are crucial. Recruiting civilians in professional and skilled technical careers to fill the ranks of those leaving can now reflect a better-balanced mix of people to include those with disabilities.

The Air Force's roadmap to get that mix will soon be unveiled in "The Plan for Employment of People with Disabilities in the Air Force," said Mr. Dan Myers, AFMC equal employment and staffing specialist at Wright-Patterson Air Force Base, Ohio. He attended a symposiumin December to address the disability issues.

"This plan will assist Air Force employers in fulfilling their commitment to become model employers of people with disabilities," he said.

Dispelling myths

But before hinting to what's anticipated in the employment plan and mentioning some of the services available to supervisors, it seems worth noting a few of the myths surrounding disability issues. Studies show people's perceptions can vary.

"There is often a tendancy to focus on differences," said Mr. Myers. "People with disabilities have a desire to provide for their families just like you and me."

There is a belief that people with disabilities are unable to meet performance standards, thus making them a bad employment risk. However, according to research done in a 1990 survey of 811 employees at science company DuPont, "90 percent rated average or better in job performance compared to the 95 percent for employees without disabilities."

The DuPont research also studied the belief that employees with disabilities have a higher absentee rate. DuPont and other firms found that "employees with disabilities are not absent any more than employees without disabilities."

And regarding accidents on the job, the DuPont study found "the safety records of both groups were identical."

Raising awareness

"As awareness is raised, attitudes are more likely to change," said Mr. Clausen, who heads the Computer Accommodations Program, or CAP, office located at Wright-Patterson. It's the only office of its kind in the Air Force.

"Here people can try out Braille printers, text enlargement software for monitors and ergonomic devices like the comfort keyboard," he said.

"Currently, ergonomic related injuries and illnesses account for more than 40 percent of the Air Force's $119 million annual

workman's compensation costs," he said.

CAP assists with the implementation of laws such as the American Disabilities Act by providing accommodation services and ergonomic assistance to Defense Department civilians, military and contractors with disabilities and injuries.

For some, requesting help is difficult. "Military people especially can have a mind-set of needing to work through an injury," according to a CAP official. "Sometimes the solution is very easy."

Ergonomics help

The Job Accommodation Network provided data from a study regarding ergonomics and the cost of not making an accommodation. One conservative estimate put the cost to a company of a single case of carpal tunnel syndrome at $30,000 in lost productivity alone. When other crucial factors, such as the cost for surgery, rehabilitation and lost work days are included, this estimate skyrockets to an astounding $200,000. "A wrist rest can cost as low as $20 and elbow supports $200," said Mr. Clausen.

"CAP has 509 active clients, has provided 775 accommodations since 1995 and has the backing of Gen. Les Lyles, AFMC commander, to try and make CAP a program for the entire Air Force," said Mr. Clausen.

Last year a CAP briefing to AFMC civil engineering leadership prompted the directorate to put an unexpected $500,000 toward facilities improvements for people with disabilities.

"We thought that was a huge success," said Ms. Danielle Kuehnle who does marketing for CAP. She encourages anyone who could benefit from CAP to visit the website at www.afmc-pub.wpafb.af.mil/ESC/MM/CAP for more information.

Hiring plan

The Air Force's disability employment hiring plan, which will be an appendix to the DOD plan, will soon be released to major commands, field operating agencies and direct reporting units for enactment. It includes items such as recruiting, the use of appointing authorities, a timeline, accommodations, career development and evaluating the success in achieving a higher percentage of people with disabilities in the workforce.

"We want to attract highly qualified persons with disabilities in all occupational series at all grade levels," said Mr. Myers. "There will be a push to review internal human resource policies and procedures to ensure that every flexibility is considered in areas such as alternate work sites and schedules, job sharing and part-time employment."

The Air Force is already actively using its intern program, which includes emphasis to recruiting people with disabilities. The program boasts perks to candidates, such as working with leading-edge technology, guaranteed promotions and raises when performance standards are met, a choice of health plans, overseas jobs, competitive full-time education and caring community work places.

"Of the 151 different Air Force work locations around the world where AFMC civilians serve, 62 locations host workers who've reported a disability," said Mr. Walt Davison, AFMC Personnel Plans, Programs, Readiness and Systems Division. "The people are located everywhere, from Tokyo to Pensacola, Florida."

Some examples of disabilities include 533 people with chronic pain, stiffness or weakness in the back, 490 people with diabetes, 16 with complete paralysis in the lower half of the body, 122 with mental or emotional illnesses and 53 with a learning disability, according to AFMC data.

Appointing authorities

The U.S. Office of Personnel Management will work with departments and agencies on the use of special appointing authorities available to them when employing people with disabilities, according to Air Force plans. An example would be hiring interpreters for employees with severe disabilities.

There are programs, training, information and an Air Force plan to help remove structural, technological and attitudinal barriers so people with disabilities can succeed and to assist supervisors and coworkers who are inexperienced in operating with people with disabilities.

"The Air Force plans will begin with a goal of hiring 800 persons with disabilities in fiscal 2001, then build momentum over five years," said Mr. Myers. Sources to attract new employees include universities, job fairs, trade schools and vocational rehabilitation centers.

"Commanders and supervisors must make reasonable accommodations for qualified persons with disabilities unless doing so would impose an undue hardship," said Mr. Myers. "An accommodation is an adjustment or alteration enabling a person to perform duties and enjoy equal benefits of employment."

Reaping benefits

The Presidential Committee's Job Accommodation Network, or JAN, collected data indicating that "companies who made accommodations reported substantial benefits resulting from the accommodation."

Nearly half stated they were able to either hire or retain a qualified worker and that they had increased the worker's productivity. In addition, 31 percent reported having saved on insurance costs and 26 percent said they had eliminated the costs associated with having to train a new employee.

JAN helps Air Force employees receive expert information on possible individualized accommodation solutions. Studies by JAN found 15 percent of accommodations cost nothing, and 51 percent cost between $1-$500.

"Commanders and supervisors must make sure people with disabilities get developmental opportunities designed to enhance their leadership skills and to advance their careers," said Mr. Myers. "Disability awareness training will be included in appropriate courses." This includes removing attitudinal barriers besides the technological and structural barriers.

Success story

For Mr. Clausen, his cerebral palsy and wheelchair haven't prevented him from excelling at work or taking part in life's activities. "I enjoy camping and have traveled extensively throughout the western and northeastern states," he said.

Research put out by CAP indicates just one more reason why people with disabilities should be given a fair shake.

"Governmental programs such as Social Security, Medicaid and food stamps pay out more than $20 billion a year to unemployed persons with disabilities," said Mr. Myers. "When a person with a disability who wants to work can't get a job because of inaccurate beliefs and assumptions, we all lose."

Mr. Myers added we all need to change our mindset regarding disabilities. "It's just the right thing to do. They have a desire to do a job and to do it well. They just need the opportunity!"

— 2nd Lt. Karen Roganov, AFMC Public Affairs

Employees work beyond disabilities

Mr. Mark Gaddis, who has a condition called osteogenesis-imperfecta, works at Kirtland Air Force Base, N.M., as an electronic design engineer in the Directed Energy Directorate of the Air Force Research Laboratory.

"My condition is also called the brittle bone disease," he said. "I have had more than 40 broken bones and more than 20 operations to straighten bones, set fractures and insert metal rods to strengthen them," he said

Only 42 inches tall, his desk has been lowered and he sits on an ergonomic chair with back support. He walks with the aid of crutches and drives a specially modified station wagon.

Mr. Gaddis' height and condition haven't prevented him from helping design and build things such as the pocket laser communicator, which allows eye-safe infrared voice laser communication. Another device he worked on is the laser medpac, a portable battery operated laser scalpel. "It can be used in remote locations to facilitate emergency surgery in situations such as skiing or mountain climbing accidents," he said.

He is currently on a 20-person team working on a project involving a high power eye-safe laser illuminator. The process also includes the latest battery technologies and sophisticated temperature control and high efficiency laser drivers to power the system.

He enjoys working with people

Mr. Michael Hobbs is a pay services technician at Warner Robins Air Logistics Center, Ga. He has worked there for 20 years.

He has a condition caused by the tranquilizer thalidmide. It was concluded as a safe drug in the 70s, but later determined to damage fetuses. Although his twin brother was born without any defects, his arms end near the elbows and legs near the knees.

But his circumstances don't prevent him from enjoying his job. "The job is not boring because of different customer service situations," he said. He recalls a memorable moment in his career.

The Air Force Reserve Band here was the first band to go to Russia after the cold war. "I helped set them up to go," he said, providing them advanced TDY travel pay, logging into the system, calculating expenses and transferring to an account for about 40 people.

"I enjoy working with people," he said. Off duty, he's trying to start a handicapped fishing tournament slated for Spring 2002. He's also chairman of the board for an organization that builds ramps, makes home modifications and provides computers to those trying to get a start in the work force.

She's full of determination

Ms. Teresa Williams has a condition called diastrophic dysplasia, a type of dwarfism along with a deformity of the bones, causing her to be under 3-feet tall. She's an illustrator working as a graphic specialist for AFMC Integrated Digital Environmental Program office at Wright-Patterson AFB, Ohio.

Despite being small, she drives herself to work in a full-sized car. "For some people it is a surprise," she said. "After a while when people get to know me, they forget I'm disabled."

Full of determination and after more than a decade of service to the Air Force, she has had plenty of time to contribute to large-scale projects — one of those being work force shaping in a roundabout way, through a community education outreach program.

She helped design the graphics and placement of a Tech Trek Logo on an Air Force Research Laboratory 40-foot customized bus, a rolling laboratory where local students, who may become future scientists and engineers, can get a hands-on opportunity to interact with high-tech equipment.

Top: Ms. Teresa Williams works as an illustrator in her office at the Materiel System Group located at Wright-Patterson Air Force Base, Ohio. (Photo by 2nd Lt. Karen Roganov, AFMC) Bottom: Mr. Michael Hobbs works with a customer at Warner Robins AFB, Ga. (Photo by Ms. Sue Sapp, WR-ALC)

Ms. Williams has her own furniture customized for her size and says she's looking into a headset so she can help a customer on the phone while typing at her keyboard.

— 2nd Lt. Karen Roganov, AFMC Public Affairs

Challenger Learning Center opens at Brooks

The first Challenger Learning Center to be located on a military installation officially opened in December at Brooks Air Force Base, Texas.

Astronaut John Blaha, chairman of the Brooks Aerospace Foundation; Mr. Herb Klein, president of the Brooks Aerospace Foundation; Dr. June Scobee Rodgers, representing the Challenger Learning Center for Space, Science and Education; Ms. Jean Newman, representing the many donors who contributed to the project; and Brig. Gen. Lloyd Dodd, Jr., commander of the 311th Human Systems Wing located at Brooks, participated in a ribbon cutting ceremony signifying the grand opening of the center.

International network

The Challenger Learning Center of San Antonio is the fourth in Texas and is part of the international Challenger Learning Center Network, now numbering 43 locations throughout the United States, Canada and the United Kingdom.

The network partners with communities, schools and museums to bring educational and entertaining space mission simulations to more than 400,000 young people every year.

Staffed by trained flight directors, the core of each learning center is the interactive computerized simulator with a mission control room patterned after the NASA Johnson Space Center and an orbiting space station ready for exploration and learning.

The two-hour mission simulations offer students the chance to see themselves in successful roles as scientists, engineers and astronauts.

The learning center, occupying a former bowling alley, is large enough to support class sizes up to 36 students.

Viewing comets

The San Antonio site offers a rendezvous with a comet, in which students are asked to construct a probe to take a close-up look at a comet as it streaks its way across the sky.

The Challenger Learning Center of San Antonio began offering missions to San Antonio public schools early in September.

It's a success

From September through November, more than 3,400 students, 343 teachers and 147 parents participated in 119 missions at the center.

Before performing a mission, students receive extensive classroom materials to help them understand the thematic topic of their simulation

— Mr. Ed Shannon, HSW Public Affairs

Top from left: Mr. Sig Christenson, a reporter for the San Antonio Express-News, and television reporters Mr. Jeff Martindez and Ms. Nora Fernanez, listen for instructions from the mission commander at the Challenger Learning Center at Brooks AFB, Texas. The center is the first to be located on a military installation. Below: Ms. Elizabeth Sparks Neely, flight director, explains mission status monitors in the center's mission control room to student Joshua Dugie and Dr. Richard Biard, Oak Crest Middle school principal.

Brooks AFB

FEW chapter wins national awards for special achievements

Chapter No. 123 of Federally Employed Women, Inc., located at Brooks Air Force Base, Texas, has captured three of five national awards for 2000.

FEW, a national organization, has more than 300 local chapters.

Through its awards, FEW recognizes special achievements in furthering the purposes of the organization.

The awards were presented at the annual Southwest regional training program in Little Rock, Ark., and the Brooks chapter won first place in programs, fundraiser and special project categories.

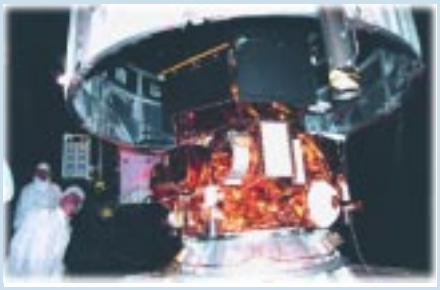
The criteria for the programs award consists of hosting monthly speakers with subjects pertinent to federal employment, women's issues, regularity of programs, program planning and publicity. The chapter presented 11 programs in addition to chairing some national observances, such as Women's History Month and disability awareness.

The criteria for best fundraiser consisted of the type of event, the amount of money raised and consistency with methods endorsed by FEW and the use of project money. The Brooks chapter worked the Professional Golf Association's Senior Open Golf Tournament in San Antonio and donated what they earned to the Southwest region fundraiser, a $150 scholarship to a chapter member for college expenses, the "Brooks Cares" program, flood victims in Venezuela and a book drive.

The criteria for the special project award is to contribute to the visibility and purpose of FEW. In celebration of National Women's History Month, the Honorable Judge Susan Reed, San Antonio's first elected female district attorney, was keynote speaker for a breakfast sponsored by the chapter.

During the month-long observance of National Women's History Month, both San Antonio Mayor Howard Peak and Brig. Gen. Lloyd Dodd, 311th Human Systems Wing commander, signed proclamations for the observance. In total, the Brooks chapter hosted three events and cohosted another with the Federal Women's Program Committee.

— Information provided by HSW Public Affairs



DMSP F-16 satellite sits ready to launch.

Defense Meteorological Satellite launch delayed

LOS ANGELES AIR FORCE BASE, Calif. — Two failed launch attempts may have saved the Defense Meteorological Satellite Program office here its F-16 spacecraft, valued at $350 million.

Both attempts were missed because of a failed command to power up the satellite's signal conditioning unit Jan. 20, followed by one of Titan II G-9's oxidizer valves registering in the "closed" position causing an automated count-down hold.

Resolution on both issues may have been possible had the launch team not been limited by a very tight 10-minute launch window. However, as range officials were preparing for a third launch attempt, two more serious problems surfaced during the spacecraft monitoring period Jan. 21.

First, the gyros in the spacecraft inertial measurement unit dropped out of flight mode. Then the power supplies autonomously switched from primary to backup mode.

Initial troubleshooting pointed to an interruption in the clock signal, causing launch officials to cancel the third launch attempt Jan. 23.

Now officials enter an investigation period to determine the cause of these problems and how to repair them. The next launch attempt could occur no sooner than April.

— Information supplied by SMC Public Affairs

5th CCG involved in all AEF rotations so far

ROBINS AIR FORCE BASE, Ga. — As the Air Force rolls into Aerospace Expeditionary Force Cycle 2, members of the 5th Combat Communications Group "are proud of their efforts towards improving the rotation process," said Master Sgt. Timothy Birdsell, 5th CCG deployment manager. The group has been involved in every rotation since Cycle 1 began in October 1999, he said.

The group filled in when a sister unit in Europe couldn't support their rotation. They will face a three-month period, starting in March, when all four mission squadrons are expected to remain in garrison. "This hasn't happened since the beginning of Desert Storm in the early 1990s," said Sgt. Birdsell.

— Information supplied by WR-ALC Public Affairs

Superstore provides technology products

MAXWELL AIR FORCE BASE, GUNTER ANNEX, Ala. — The virtual shelves of the Air Force's online information technology superstore accommodates more than 40,000 new items, making it the one-stop shop for all information technology equipment. The site is located at http://itsuperstore.af.mil.

Whether you're an acquisition novice or a savvy E-commerce techie, the superstore has it all. Visitors find ordering as easy as clicking a mouse with the goods being quickly delivered.

The information technology superstore is the largest Defense Department warehouse in cyberspace, providing affordable and easily accessible sources of supply for commercial technology products and services.

— Information provided by SSG Public Affairs

Tinker home to global communications network

TINKER AIR FORCE BASE, Okla. — The high frequency global communications system program office is installing new systems to create a state-of-the-art automated network, supported by 14 stations worldwide.

The system provides users the capability to communicate via voice and data with any high frequency-equipped aircraft in the world.

The system program office for worldwide high-power high-frequency communications ensures ground-based high frequency radio stations have the most efficient connectivity to communicate with aircraft anywhere in the world.

The office officially stood up as a new division under the airborne accessories directorate here. The system program director and system sustainment were previously located at McClellan Air Force Base, Calif., with the acquisition segment of the SPO an associate office at Tinker since 1995.

— Information supplied by OC-ALC Public Affairs

Air Force awards satellite contract to Boeing

LOS ANGELES AIR FORCE BASE, Calif. — Air Force officials here awarded a Wideband Gapfiller Satellites design and production contract worth more than $1.3 billion to Boeing Satellite Systems in El Segundo, Calif., early this year.

Boeing Satellite Systems will develop, produce and launch three high performance communications satellites with the first to be launched in early 2004. The contract also calls for Boeing to deliver all associated satellite control systems and contains options for the government to purchase up to three additional satellites.

— Information provided by LAAFB Public Affairs

AFRL Awards AMSTE II research contracts

ROME, N.Y. — The Air Force Research Laboratory Information Directorate has awarded two contracts totaling more than $23 million for research in support of the affordable moving surface target engagement II, or AMSTE II, program.

AMSTE is an initiative to investigate and develop technologies to affordably engage moving surface targets such as tanks, tactical ballistic missile transporters and small boats.

AMSTE research will develop a new capability for the military services to strike with precision, moving surface threats from long ranges and in all weather conditions.

The program is primarily focusing on ground moving target indication radar, a sensor that can detect moving surface vehicles from long distances.

— Information supplied by AFRL Public Affairs

X-32B completes speed taxi tests

The Boeing X-32B Joint Strike Fighter concept demonstrator moved closer to first flight during January with the completion of initial low- and medium-speed taxi tests to verify function and integration of crucial aircraft systems.

"The propulsion and on-board systems met our expectations, which were based on X-32B static tests and our experience on the X-32A," said Mr. Frank Statkus, Boeing vice president and JSF general manager. "The high level of commonality built into the X-32A and -B is paying off. Just like the X-32A, the -B performed well at 30 knots, or 34.5 mph, and again at the medium-speed taxi test at 60 knots, or 69 mph."

During the taxi tests, Boeing lead short takeoff and vertical landing test pilot Mr. Dennis O'Donoghue stayed in contact with test engineers who monitored the aircraft's instrumentation from their control room.

"We conducted functional checkout of the nose wheel, steering, brakes and anti-skid systems, and evaluated ground handling qualities during these tests. Everything went exactly as planned," Mr. O'Donoghue said. "During taxi, the aircraft handled just like the X-32A."

The next step involves Boeing certification and government verification of low- and medium-speed taxi test data prior to the high-speed taxi test.

Following high-speed taxi, the X-32B will begin flight test with an initial flight from Palmdale to test facilities at Edwards Air Force Base, Calif.

The first flights at Edwards will validate basic airworthiness, to be followed by short takeoff and vertical landing transition testing at altitude. The aircraft will then be flown to the Navy's test facility at Patuxent River, Md., to continue testing, which will include vertical landings.

Taxi tests are important steps leading to the X-32B first flight, but the focus is really on successful completion of the whole flight-test program, according to Mr. Statkus. "First flight will

happen when the team and the plane are ready to begin the entire flight test program, and that is determined in large part by this kind of interim testing."

To perform short takeoff and vertical landing maneuvers, the system redirects engine thrust downward through lift nozzles in the airframe.

For conventional flight the lift nozzles are closed and thrust flows rearward through the two-dimensional thrust-vectoring cruise nozzle — the same as in the X-32A — to propel the aircraft forward and up to supersonic speeds.

In more than 500 trials on the short takeoff and vertical landing engine run stand, transition times between conventional and vertical thrust and back again have been consistently accomplished in one to three seconds.

This rapid and direct transition capability is critically important for unrestricted short takeoff and vertical landing operations and aircraft safety.

The company's X-32A demonstrator, which made its first flight in September 2000, completed 100 percent of its government-required aircraft carrier variant low-speed handling tests at Edwards as well as aerial refueling and supersonic flight before the end of the year.

— Mr. Ray Johnson, AFFTC Public Affairs

F-22 program initiates next milestone

F-22 program officials initiated the fatigue testing necessary to accomplish the next program milestone in December, according to Air Force officials.

Successfully applying simulated cyclic loads to F-22 Raptor 4000 achieves another critical year 2000 Defense Acquisition Board criteria.

"The first fatigue loads were applied to Raptor 4000's rudders, leading edge flaps and main weapons bay doors, at the same time various loads were applied to other locations on the airframe similar to those the aircraft might experience during flight," said Mr. Chuck Babish, F-22 System Program Office fatigue test lead. Raptor 4000 will now undergo approximately 8,000 hours of fatigue testing through November 2001 with an additional 24,000 hours of testing through 2003.

Lockheed Martin Aeronautical Company's facility in Marietta, Ga. is the site of the testing. Lockheed Martin, the Boeing Company, Seattle, Wash., and Pratt & Whitney, Hartford, Conn., have joined the Air Force to develop and produce the F-22, which is slated to be operational in late 2005.

The world's first stealth air-to-air fighter will be virtually unseen on radar, deadly at long range and unmatched at close-in dogfighting, program officials said. As a multi-mission fighter, it will have superb, precision-strike ground attack capability.

A multimode electronically scanned radar, internal weapons carriage, vectored thrust and a sophisticated fully integrated sensor array are only some of the revolutionary advantages that Raptor brings to the air combat arena, according to Air Force officials.

The F-22 System Program Office at Wright-Patterson AFB, Ohio, manages the F-22 program. Brig. Gen. Jay Jabour is the F-22 System Program director.

— Reported by ASC Public Affairs

Hill teams keep A-10s flying

Thanks to the HOG-UP Tiger Team from Hill Air Force Base, Utah, and the entire Ogden Air Logistics Center staff, the A-10 Warthog will continue to provide close air support despite its scheduled phase out.

"It's an excellent airplane and it packs quite a wallop," said Capt. Dave Clayton, former officer in charge of an effort to refurbish the aging aircraft.

Increasing lifespan

"Basically, we're doubling the life-span of the A-10. The aircraft began production in the mid to late 1970s and here we are in 2001," said Capt. Clayton. "We need to get another 20 to 30 years out of it."

Designed to last only 6,000 hours, most of the A-10s have already flown between 6,000 to 8,000 hours and the Air Force wants to keep the Warthogs flying until at least 2028. The plane needs to be upgraded in order to achieve this.

Tiger team

A dedicated team of more than 20 personnel assigned to the center's technical repair division in the Aircraft Directorate assumed the mantle of refurbishing A-10 wings. The original team came together in early June and tackled the enormous challenge of "bringing the facility up to a fully functional operation starting from scratch," Capt. Clayton said.

"Mr. Andy Humphrey, Mr. Mike Moonen and Mr. Jimmy Mays diligently defined the critical path to be followed by the A-10 HOG-UP team by performing necessary planning, scheduling and researching functions," said Capt. Clayton.

Gaining insight

"I came on later as a career-broadening officer to compliment the Tiger Team efforts and gain insight into how the depot system works," he said. "Our primary job is to provide the initial planning and provisioning and to remove obstacles in order to enable the directorate to support our customer's needs throughout the life of the program."

A worker prepares an A-10 wing for refurbishment as part of the Air Force's preliminary HOG-UP program at Hill Air Force Base, Utah.

The tiger team is working as a cohesive unit and effectively completing the wing refurbishment project and developing the statement of work for the wing overhaul effort. They have worked to develop the bill of materials and work control documents using strictly organic manpower, resulting in savings of $175,000.

With the initial operation behind schedule, the team coordinated pre-production actions, identified missing parts and ordered them resulting in zero stoppage in operations due to a parts shortage.

Refurbishment is a program to bring wings out of the Aerospace Maintenance and Regeneration Center at Davis-Monthan AFB, Ariz., to Hill AFB, Utah, to bring them to current year configurations.

The first phase of a three-phase program is refurbishment. This phase is scheduled for completion in 2002, at which time the team will be ready to commence HOG-UP production in phase three.

Concurrent with the refurbishment phase, the team will also build two prototype wings for testing by Northrop Grumman. These prototype wings are the second phase of the program.

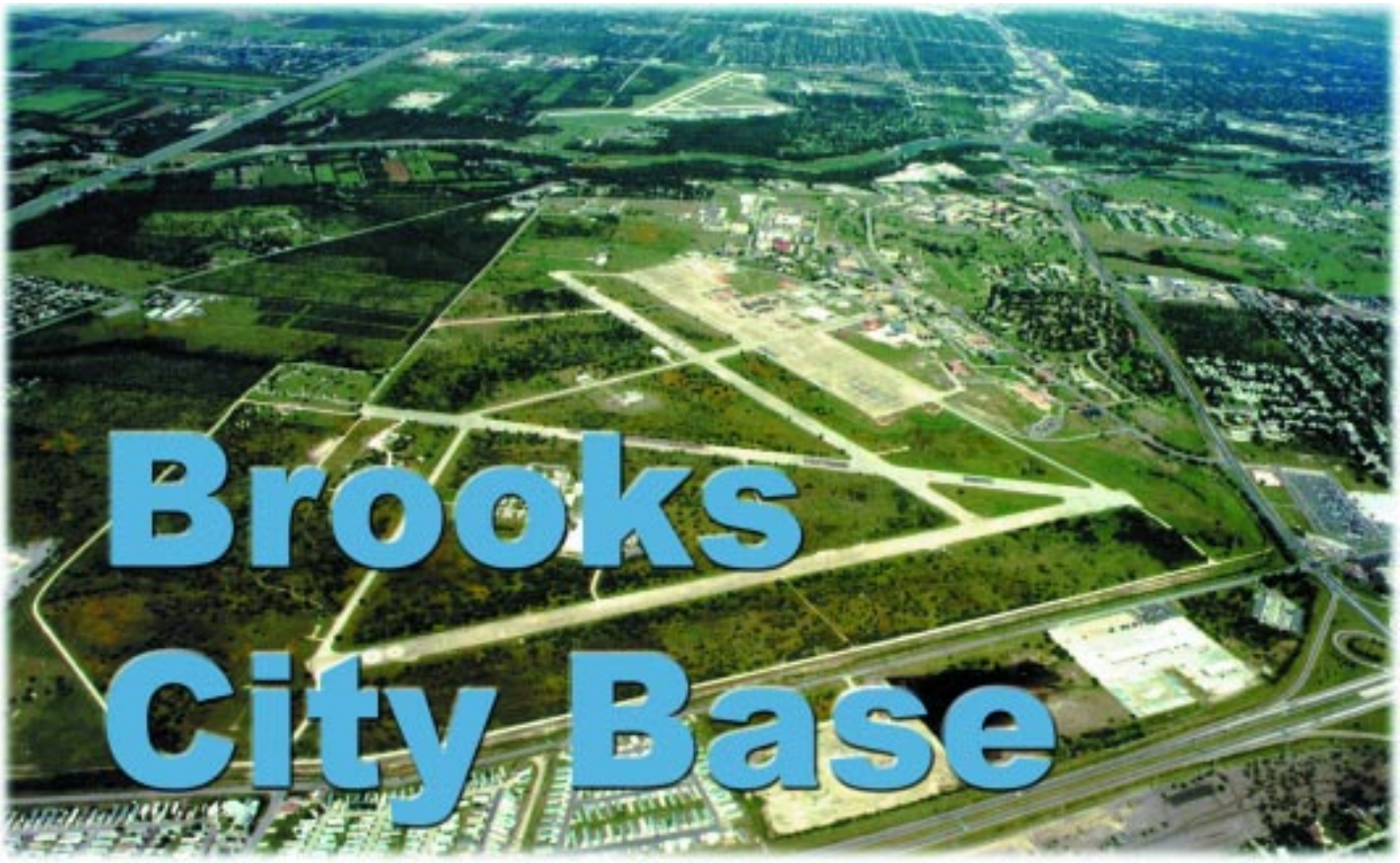
Phase three

The bulk of work for the modification in phase three is adding a series of stainless steel straps into the center wing, outer wing panel, mid-spar repair and wing station repair, some fuselage work, as well as other typical repairs.

The majority of work in the program should be completed by fiscal 2011 and will cost an estimated $180 million according to Mr. Dennis Peters, the program manager.

"The Hill A-10 HOG-UP team has done an extraordinary job in building a great foundation toward the ultimate goal of ensuring this combat-proven aircraft is revitalized to perform its critical Air Force mission," said Capt. Clayton.

—Mr. Gary Boyle, OO-ALC Public Affairs



Former Air Force Secretary F. Whitten Peters made history in December when he signed a non-binding agreement with the city of San Antonio, Texas, to release 1,310 acres of land located at Brooks Air Force Base into the city's care for the next 10 to 20 years. The agreement is the first of its kind, air force officials said.

The release of land, including 265 commercial and 95 residential buildings, was a money-saving measure for the Air Force designed to drive down the operational costs at the base while fostering a spirit of cooperation with the city for the land's eventual development.

"The Air Force will save a significant sum in operations and maintenance costs; and both the city of San Antonio and the Air Force will share in the revenues generated by commercial and academic activities at Brooks," Secretary Peters said. "That's the definition of a 'win-win' situation."

The Air Force expects to save $7 to $9 million in the base's first few years of implementation, said Mr. Jimmy Dishner, deputy assistant secretary of the Air Force for installations.

Savings are expected to rise in subsequent years.

"Over the life of this agreement, the value of the property is more than $60 million," Mr. Dishner said.

"The potential here is to drive down the costs equal to the value of the property, so $7 million is just the beginning," he said.

The agreement will transfer most of the current Brooks property to the city of San Antonio, which will then lease mission-essential facilities back to the Air Force.

The city will develop the remaining land into a high-tech business and academic park.

"Congressman Ciro Rodriguez, who spearheaded this project, was looking for a way to work with San Antonio to increase the viability of the southeastern portion of the city by building upon Brook's reputation as a center for space medicine," Mr. Dishner said of the base's future development potential.

Critics of the city-base concept claim the Air Force has successfully protected the base from the Base Relocation and Closure Commission, or BRAC.

However, Mr. Dishner said the Brooks city-base partnership does not remove the installation from future consideration for closure should Congress direct another round.

"The point of BRAC is to get rid of excess property," Secretary Peters said. "This is a different way to do it. There are portions of Brooks that are unique and important to the Air Force, and in a situation like this where the base is near a major economic center, it makes sense to try to get rid of excess property while allowing the Air Force to keep what's unique.

"I don't think this is the answer for all excess property because not every base has the kind of economic value and unique assets Brooks has, but there will be other bases, like this, where there'll be a real opportunity for cooperative development," he said.

Air Force and San Antonio officials worked together for more than two years to establish the Brooks City Base, for which the city of San Antonio could build upon Brooks' reputation for aerospace medicine and all it's facets.

— Air Force Print News report

Shoreline restoration underway at Eglin

A series of temporary mesh fences are being placed along the shoreline at Eglin Air Force Base, Fla., to protect range facilities and historic properties from beach erosion.

An experimental effort is underway to protect range facilities and historic properties from beach erosion at Eglin Air Force Base, Fla.

The system is intended to deposit sand from offshore and retain it along the beach area as an alternative to dredging.

Under the auspices of a cooperative research and development agreement, a series of temporary mesh fences, or groynes, are being stretched under water near Eglin's beach recreation center. A second location is at an operation radar site, also on the beach.

According to Mr. Jerry Jones, chief of the business development team in the Air Armament Center Plans and Programs directorate, the collaborator, Benedict Engineering Company, proposed a partnership with Eglin to test this experimental technology.

Rebuilding the infrastructure

"Erosion is a definite problem," Mr. Jones emphasized. "The walled structures at beach test sites are being degraded, so we must reconstitute or rebuild the infrastructure."

Mr. Mike Lipcsey, project facilitator, said 15 groynes are being placed on three-foot stanchions at 100-foot intervals that extend about 150 feet from the high water line.

"The design slows lateral wave action so sediment can settle outside the netting," said Mr. Lipcsey. "These are temporary structures that can be rolled up, if needed."

Environmental safeguards

The duration of the project is until April 30, 2001, ending before the sea turtle nesting season. The design element was carefully considered to minimize entrapment of sea life.

As a further safeguard, the site will be monitored several times a day to recognize any environmental concerns and gauge the success of the project.

Col. David Bird, 96th Air Base Wing commander, said that shoreline restoration is a partnership between research and Mother Earth.

Embracing new technologies

"This is an experiment," said. Col. Bird. "The reality is that erosion is a continuing problem. While we may not be successful, it's time to embrace this new technology."

Watchful eyes are focused outside the military community on the results of this experiment. Interest from beach cities like Destin and sites in Louisiana is keen because erosion is not just an Air Force issue.

According to Col. Mike Newberry, environmental management director, the project is a partnership effort that may not have succeeded without the efforts of many organizations.

"For the past one and one-half years, this experiment has enjoyed tremendous support from the local community, the Okaloosa County commissioners, the Florida Department of Environmental Protection, Benedict Engineering and, of course, Eglin leadership," said Col. Newberry.

"This really is a reflection of the good things that can happen when the Air Force joins forces with the community to do the right thing," he said.

— Ms. Lois Walsh, AAC Public Affairs

Office a refuge for heroes and villains

If you don't have a child's imagination, then don't venture into Mr. Ernest Moore's work place. Unlike "Mr. Roger's neighborhood," youngsters of all ages who visit this magical world must fully engage their sense of wonder when gazing upon villains and heroes who are no more than several inches tall.

Deep within the Air Force Center for Environmental Excellence's office cubicle labyrinth at Brooks Air Force Base, Texas, is an unusual exhibit that reflects the humanity and imagination of a beloved AFCEE worker. The twinkle in Mr. Moore's eyes and nostalgic euphoria he exudes when referring to his "companions" conveys a Santa Claus-like fascination with toys.

"My ultimate goal is to entertain and teach children about the nature of toys," says the 48-year-old support services officer for logistics management. He began displaying his collection at work two years ago, an outgrowth of his community involvement.

"I show my collection at elementary schools to educate students about the stories behind toys," he said. "I tell them toys help develop imagination."

He also exhibits toys during Boy Scout merit badge classes where they learn fundamentals of collecting. "I teach them to buy toys in mint condition, to test for mechanical movement if it was originally designed for the toy and to look for damage and repairs."

Mr. Ernest Moore, a support services officer for logistics management at the Air Force Center for Environmental Excellence at Brooks Air Force Base, Texas, is surrounded by part of his vast toy collection at work. (Photo by Mr. Rudy Purificato, 311th HSW)

Co-workers' children usually ask Mr. Moore what his job is, initially suspecting him to be one of Santa's elves manning an office shopping outlet. His clever assembly of his colorful cast of characters attracts children. Several figures are posed for dramatic effect, like Spiderman descending from the ceiling via a string attached to a parachute.

"I always liked toys," he said. Typical of his generation, his early collection featured yo-yos, Lincoln logs, a train set and Tinker toys. He hunted for discarded glass soda bottles to cash in as returns to help finance a growing toy collection.

Comic books supplemented Mr. Moore's fascination with fantasy, although the era produced few toys based on comics' superheroes. His favorite is red-white-and-blue bedecked "Captain America."

"He represents what I stand for. D.C. Comics created Captain America in 1941 as part of the Avengers, a group of superheroes," said Mr. Moore.

Circumstances that ended Mr. Moore's military career hauntingly mirror the fictional character.

"Captain America, a.k.a. Steve Rogers, was deemed physically unfit for service after being injured in a 155mm howitzer accident. He was then transformed into a star-spangled hero, using his shield as a weapon to defend himself against enemies."

In 1986, Mr. Moore's 17-year Army career prematurely ended when he suffered a similar fate at Fort Hood, Texas as a maintenance technician. "My left hand was sucked into an engine compartment's cooling fan. I lost three fingers and was medically retired," said the Vietnam veteran.

Like Captain America, Mr. Moore transformed himself into a force for good rather than dwelling on hardships. He re-focused his energies on both collecting toys and learning about their origins.

Ten years ago, he bought his first superhero 'action figure': "Captain America." Today, his collection totals 250. Some characters are familiar: Superman, Batman and Incredible Hulk.

"My criteria for acquiring a toy is rarity and unusualness. I also look for defects which make the toy more valuable," he said.

Accessories including Spiderman's life raft, trading cards, posters, coffee mugs and animated movies help Mr. Moore demonstrate to children how toys are constantly evolving.

He said collectible cards which perpetuate stories first published in comics "give children insight about characters' motivations, encouraging them to read." Most important to Mr. Moore is sharing the relationship between superheroes and villains. "The theme of each superhero is their special mission in life to do good by defeating evil, but never killing the villain."

Mr. Moore's hobby has validated what he's always believed: "There still is a child in all of us. Collecting toys helps preserve something of that inner child we never grow out of."

— Mr. Rudy Purificato, 311th HSW

Graphic illustrator uses humor and innocence to create art

You might not recognize his face, but chances are you'll recognize his work. Tech. Sgt. Bill King is the graphic illustrator who's designed 25 covers and many of the inside graphics for the *Leading Edge* magazine over the past four years.

Early interest

His interest in art has early beginnings. His father had a fondness for drawing cartoons and other characters, so as a child he began trying his own hand at drawing.

In fifth grade he entered a "Smokey the Bear" contest during fire prevention month, winning first prize. "It was a big deal for me," he said. "I got to be on television and won a $25 gift certificate.

"My father and teachers made a big deal out of my winning, probably bigger than it should have been, but it was a tremendous boost to my self esteem," he said.

"It was a great feeling having my parents proud of me. That made me want to be a better illustrator and caused me to really apply myself to my art," he said.

He explored other creative ventures throughout the years, trying to play the piano and later the violin to see if he had any musical talent. But he always returned to his true creative genius – drawing.

Unseen hands

"I think there were unseen hands pushing me in that direction," Sgt. King said. "They say that a thousand unseen hands push you in the right direction. In my case it was those of my parents."

Through the years he moved with his family from Nebraska to West Virginia, Florida and then Ohio. Along the way, he lost his direction and was unsure what to do with the rest of his life.

"I couldn't qualify for an art-school grant and lost a promising scholarship when I moved," he said. "This was in the late 80's and there just weren't any jobs in Massillon, Ohio. I couldn't even get hired to work at a fast food restaurant."

He finally landed a job in an assembly line, putting automobile parts together. "I did that for about a year, until my hands started to swell at night. I knew there had to be something better.

One night, I remember feeling just like George from 'It's a wonderful life' trying to leave this little one horse town and not being able to. I placed my head in my arms and began to cry."

That's when his mother suggested he go into the military. "I swore I would never go in the service," he said. "I had this idea that the only reason people enlisted was to keep from going to jail. I looked on it as a last resort, when it should have been the first resort."

New beginnings

He hooked up with an Air Force recruiter and took a placement test, doing well on electronics and computers. Within a year he was raising his hand, saying "I will."

Before leaving for boot camp, he expressed his love of art to his recruiter, who suggested he take his artwork with him and look into taking a bypass test for illustration.

"When I got there, they told us to put everything we brought with us on the bed," he said. "I put my portfolio out showing some of the awards I had won. My military training instructor was impressed. He also suggested I take the test.

"When I arrived for the graphics test, there were about 25 other people there," he said. "The instructor asked how many of us had graphics experience and I was the only one who didn't raise my hand. I felt discouraged, but it turned out I was the only one who passed."

They took him out of the electronics field, placing him in the graphics career field and he was off and running.

His first assignment was for Strategic Air Command in Omaha, Neb. "They had the first computer graphics course in the Air Force," he said.

"I'd never worked with computers before, so I just sat down and started playing," he said. "I wrote things down as I went along and learned in the process. The technologies were cutting edge.

"They had a paint program that I would play with doing drawings and that's pretty much how I got started," he said. "I became known as the 'guru' of these new programs and the Air Force began sending me all over the world to teach computer graphics."

He admits the technology was crude compared to today. "Every six months computers can double their size," he said.

"Computer graphics is ahead of that, due to the visions of the people working on them. We need computers to run faster to make our images bigger and better."

His career path eventually led him to Wright-Patterson, where he worked in the AFMC presentation office "basically pushing buttons to advance to the next slide," he said.

"I had been working for the Thunderbirds doing all of their publicity as their art director, with two photographers and another illustrator working with me. I worked 18 hour days and was used to a high-speed lifestyle and my creative juices were lying dormant at Wright-Patterson."

Then he discovered the *Leading Edge* magazine and noticed they were reusing images, moving them from inside the magazine to the cover and vice versa.

"My imagination went into full speed, so I called the *Leading Edge* office and left a message that I would like to work with them," he said.

No one returned his call, so a few days later he walked down and introduced himself. "Mr. Rob Ely, the editor at the time, accepted my offer to help and asked if I could design a cover by the next day," he said.

"I brought him the cover the next morning and I was off and running," he said laughing. "That was four editors ago and I'm still here."

The design process

"When I design a cover, I take the basic concept of the lead stories and try putting a play on words — changing them around to inspire me," he said. "Most of the themes are so all encompassing that I may have to take more than 40 photos and combine them into one image."

A prime example of that was last month, when he designed the cover depicting people from various career fields holding up an airplane to portray supporting the war fighter. "It takes people from every career field to complete a

successful mission," he said.

"I made my own prop and suspended it from the ceiling and got people to stand there holding it up," he said. "Then I took digital photos and merged them together under the image of an F-117. The equipment here can't handle files that large, so I did it on my own equipment."

On his own

It's notable that all of the covers he designed were on his own time and equipment. "I did it because I enjoyed it and for no other reason," he said.

Not that it hasn't benefited him. "I began receiving inquiries about outside work from people in private industry who had seen my work on the *Leading Edge*," he said.

On one of his first interviews, he began his presentation with an insult. "I was sitting on one side of the table and the company president and three vice presidents were facing me," he said.

"I told them that all contractors look the same because they're having their engineers do illustrative art," he said. I told them it was easier for an artist to be an engineer than an engineer to be an artist. Engineers are analytical, artists usually think in three dimensions — using feelings to come up with ideas from all the dimensions."

The president laughed and told him that was exactly what they wanted — to be set apart. He got the job.

"In 2000, that company won the Small Business of America award," he said. "I like to think I helped."

His greatest creation

Sgt. King considers his 7-year-old son Austin his greatest creation. "I always try to put him in my work. Art is an honest, innocent idea, surrounded by a lot of truth. What better than a small child to symbolize that truth. Sometimes I use his image, sometimes I look through his eyes. I'm either trying to draw him or what he sees — using a child's strong curiosity."

He also uses his sense of humor in his artwork. "A sense of humor will help you with everything you do in life," he said.

Sgt. King plans to stay in the Air Force for at least seven more years before pursuing full time employment on his own. He exits AFMC for his next assignment early this Spring.

He becomes defensive when critics suggest that computer graphics isn't an art form. "I love to paint and I love to do computer graphics. I have come to the realization that they're both creative outlets. Computer tools don't create art — artists do.

"I'm constantly growing as an artist," he said. "I'm beyond asking about the simple mechanics. Now I ask myself why am I doing it this way? What do I want to achieve with my art.

It's amazing

"A friend of mine once said 'you can spend your life in a fog or you can have your eyes wide open in wonder and amazement.' That's how I choose to live my life — in wonder and amazement."

For the past four years Sgt. King has amazed many throughout AFMC with his illustrations. Though you may never see his name in bold again, make sure you are always checking the fine print. With his talent and determination, chances are, you will see his work in magazines and on billboards for years to come.

— Ms. Libby VanHook, AFMC Public Affairs